DOCUMENT RESUME

ED 422 807 HE 031 565

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TITLE Can Race-Blind Policies Produce a Diverse Student Body? AIR 1998 Annual Forum Paper.
PUB DATE 1998-05-00
NOTE 57p.; Paper presented at the Annual Forum of the Association for Institutional Research (38th, Minneapolis, MN, May 17-20, 1998)
PUB TYPE Information Analyses (070) -- Reports - Evaluative (142) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS *Access to Education; *Admission Criteria; Affirmative Action; *Civil Rights Legislation; *College Admission; College Freshmen; Compliance (Legal); *Diversity (Student); Educational Finance; Higher Education; Need Analysis (Student Financial Aid); Paying for College; Policy Formation; *Racial Balance; Racial Bias; Racially Balanced Schools; Social Discrimination
IDENTIFIERS *AIR Forum; Missouri; *Racial Preference

ABSTRACT

This paper argues that there is reason to reconsider college admissions policies on three levels because: (1) some admissions measures exhibit racial or economic/social status bias, (2) there is evidence that financial barriers exist, and (3) a belief exists that race-blind admissions policies which include adjustments that offset students' social and economic circumstances can yield a more racially diverse student body than those mandated by legislation or judicial action. The first section of the paper examines key judicial and legislative actions to illustrate the evolution of racial preferences in the admissions process. In the next section, the paper reviews the results of research using criterion-related or predictive measures of validity and also looks at selection-bias research. In the next section, characteristics of students in public higher education in Missouri are examined for evidence of economic barriers to access. Finally, a series of race-blind admissions models designed to offset social and economic barriers were applied to Missouri's student population in an attempt to produce a diverse student body at colleges within the state. Sixteen data tables and three figures are appended. (Contains 24 references.) (CH)

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ED 422 807

CAN RACE-BLIND POLICIES PRODUCE A DIVERSE STUDENT BODY?

May, 1998

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The authors wish to acknowledge the assistance of Dr. Kala Stroup, Commissioner for Higher Education, and the staff of the Missouri Coordinating Board for Higher Education who made available the data resources without which this study could not have been done. Special thanks to Dr. John Wittstruck, Dan Peterson, Terry Tabor and Don Watson.

The opinions expressed in this paper are the authors'. They are not the opinions of the University of Missouri or the Missouri Coordinating Board for Higher Education.

HE 031 565

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AIR
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This paper was presented at the Thirty-Eighth Annual Forum of the Association for Institutional Research held in Minneapolis, Minnesota, May 17-20, 1998.
This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of AIR Forum Papers.

Dolores Vura
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Can Race-blind Policies Produce a Diverse Student Body?

Abstract

It is time to rethink the interaction of admissions policies and student diversity goals before that opportunity is lost to judicial or legislative action. Perhaps it is time to consider whether diversity means more than the racial distribution of a freshman class. Perhaps the concomitant economic, social and demographic disadvantages that affirmative action was to offset should continue to direct admissions programs and offer a more palatable argument for diversity than simple racial composition. But can consideration of factors associated with racial disadvantage yield freshman classes that are also racially diverse? This paper reviews relevant legislative and judicial actions, reports findings of bias in admission measures, examines the extent to which economic conditions function as barriers to attendance in Missouri, and describes the impact of admissions models that attempt to overcome economic and social barriers. In sum, social and economic disadvantagement can be used to improve racial diversity beyond that of purely race-blind policies, but improvement is modest and the weighting required heavy.

Introduction

While the racial discrimination charges that forged many affirmative action programs are greatly diminished, institutional commitment to maintaining a racially diverse student body is not (Lederman, 1998). Public policy has moved from segregated institutions, to integrated schools and universal affirmative action policies, then toward race-blind policies over a few decades. Over this same period, postsecondary institutions have learned the value of a racially diverse student body and abhor the idea of again segregating campuses even if that segregation results from race-blind policies. The extent of commitment to diversity was made apparent in the *Chronicle of Higher Education* advertisement, On the Importance of Diversity in Higher Education (February 13, 1998, p. A48) that was endorsed by about 50 postsecondary associations. How will our institutions balance the forces of race-blind policies and the desire to maintain a vibrant and socially relevant student body? Is it possible to satisfy these competing demands? Can colleges and universities craft fair and valid admissions policies that produce racially diverse student bodies without using different standards for minority students? President Clinton, in an address to U.C. San Diego graduates, challenged the foes of affirmative action to find a better solution to insure diversity (Strosnider, 1997). Given current circumstances, it is a challenge to be taken-up by friends as well.

This paper presents a variety of evidence that there may be reason to reconsider admissions policies on three levels. First, some admissions measures exhibit bias by race or economic and social status. Second, there is reason to believe that financial barriers to attendance exist. And last, there is reason to think that race-blind admissions policies that include adjustments to offset students' social and economic circumstances will yield a more racially diverse student body than would be the case using the type of simplistic admissions standards that may be mandated by legislation or judicial action.

This paper is structured as follows. First, key judicial and legislative actions will be reviewed to illustrate the evolution of racial preferences in the admissions process. Second, the results of original criterion-related validity or predictive validity and selection-bias research will be reviewed to create a foundation for designing new policies that emphasize social and economic diversity and disadvantage instead of race. Third, the characteristics of students in public higher education across Missouri will be reviewed for evidence of economic barriers to access. And fourth, a series of race-blind admissions models designed to offset social and economic barriers will be applied to the student population in an effort to produce multiply diverse student bodies.

Review of Literature

As has often been the case in judicial and legislative history, legal and political remedies to correct social problems have fallen short of their goals. Such has been the case for the series: racial segregation, discrimination, affirmative action, and race-blind admissions policies. The sad truth is that after 20 years, minority graduates have declined as a percentage of the minority population in general (Astone & Nunez-Wormack, 1990). One reason for this lack of achievement might be over-reliance on an isolated measure of integration.

For thirty years, the concept of a diverse student body at a public university has largely been limited to minority composition generally and in many states, to African-American enrollment specifically. The reason for this myopic focus on proportional distribution is obvious, after segregation laws were expunged, that was the nature of legal challenges to admissions practices and the measure of the success of remedies. But that exclusive focus has apparently been ineffective in overcoming the legacy of legal segregation.

The evolution of racial enumeration as the central measure of the success of affirmative action policies can be seen in key judicial and legislative actions. There have been two federal foundations from which affirmative action policies have been built and then attacked. Constitutional issues of affirmative action programs are based on the Fourteenth Amendment's Equal Protection Clause, passed in 1866, which prohibits states from denying anyone "equal protection of the laws". Statutory issues of affirmative action programs are based on Title VI of the Civil Rights Act of 1964 which prohibits discrimination based on race, color, or national origin for any institution receiving federal assistance and also Title IX of the Education Amendments of 1972, which prohibits discrimination based on sex. Title VI and Title IX regulations require institutions to design and implement affirmative action programs to ameliorate the effects of past institutional discrimination (Heffernan & Bazluke, 1996). Whenever affirmative actions have been taken, success has been measured by changes in racial composition.

Adams v. Richardson was filed in 1970 by the NAACP against the Department of Health, Education, and Welfare, charging that its Office of Civil Rights had failed to take appropriate action against 19 states. The suit emphasized the small number of African-American students enrolled at formerly all-white campuses. In the successful suit, student parity was defined as *proportional participation* (Preer, 1981) and the resulting remedies were affirmative action admissions practices and recruitment schemes used to achieve that quantitative parity.

DeFunis v Odegaard was the first case to address the constitutionality of affirmative action in higher education. DeFunis claimed that the affirmative action program in which minority

applicants were considered separately from other applicants at the University of Washington law school was discriminatory and violated his rights under the Equal Protection Clause. Although the case was dismissed as moot, Justice Douglas wrote the dissent, concluding that this admission policy could be unconstitutional unless "...it took account of 'cultural standards of a diverse rather than a homogeneous society' in a 'racially neutral' way." (Kaplan and Lee, 1995, page 401) The court further held that the state had a compelling interest in trying to eliminate a racial imbalance in legal education and practice. Therefore, separate policies to achieve quantitative targets were legal.

Five years later, the Supreme Court ruled in *Regents of California v. Bakke*, that UC-Davis's medical school could not reserve a fixed number of places in its class of new students based on race because the quota system effectively created separate policies by race (Preer, 1981). With *Bakke* the Court began to limit the extent to which racial preferences were justified. Separate admission systems were found to be inherently illegal. The Court did, however, allow race to be one factor in admissions. Even though *Bakke* allowed the continued use of race in admissions, one of the guidelines established to evaluate programs stated that racial classification and preference remain suspect and that race-sensitive polices should be temporary (Fuller & McNamara, 1978).

In Washington and California, two additional cases must be considered in conjunction with the *Bakke* decision to maintain affirmative action programs. The first case, *McDonald v. Hogness*, charged the University of Washington's medical school with racial discrimination against whites. Washington did not have a separate policy for consideration of minority applications and race was not a specific consideration in admissions. However, the policy did consider extenuating circumstances as they applied to the general selection criteria and it was under this general umbrella that the race of an applicant could be considered. Again, the court allowed race to be a factor in admissions evaluations when the policy promotes compelling state interests, such as development of a diverse student body, and did not completely remove an application from competition with all other applicants.

Although the trial preceded the *Bakke* decision, the second case to be considered in conjunction with *Bakke* was *DeRonde v Regents of the University of California*. In considering applicants for admission to the University of California – Davis law school, the institution, without having any quota system used "ethnic minority status" as one aspect of the admission criteria. In affirming the legality of the admission policy, the courts also affirmed the justification of remedying past discrimination by the institution.

As a result of judicial and legislative decisions, three types of affirmative action programs have been defined that allow for the consideration of race in admissions. The least assertive is a uniform system in which the institution's admissions policy is designed so that standards, while applied to all applicants, also consider qualifications or potential of minority or disadvantaged applicants. The second system, a differential system, is more assertive in that it allows institutions to apply different standards for some individuals when the use of a uniform system would discriminate against disadvantaged or minority applicants. The third system, a preferential system, is specifically designed to provide preference for minority or disadvantaged applicants (Kaplan and Lee, 1995). Only the first of type of admission policy is probably legally defensible in the late 1990s and even its consideration of race as a factor in admissions may now be lost.

In *Hopwood v. Texas* (1996), the Fifth Circuit Court of Appeals ruled that the Law School of the University of Texas could not use race as a factor in admissions. Initially, the federal district court supported two underlying objectives of the admission program, (1) developing a diverse student body and (2) overcoming current effects of prior discrimination. The federal court rejected other justifications of the admissions program, such as compliance with an Office of Civil Rights plan and compliance with an accreditation standard on diversity. On appeal the decision was reversed with two of the three judges ruling that diversity as a basis for such policies was not constitutionally sustainable. The third judge, stated that diversity was a constitutionally sustainable rational, however, since the policy only applied to Mexican-American Hispanics and African-Americans it was unconstitutional. All three judges stated that the school did not fully demonstrate past discrimination as a result of law school actions and as separate from the Texas educational system or society. The only compelling state interest that would justify using race in the admission policy would be if the Law School were remedying past wrongs committed within the Law School. (Garfield, 1997) If institutions must demonstrate responsibility for past discrimination before affirmative action is justified, then few will do so.

In other states covered by the Fifth Circuit Court of Appeals, the *Hopwood* decision has created conflicting standards. In 1995, *U.S. v. Louisiana* resulted in a court approved settlement that permitted the use of race as a factor in admissions to support racial integration at institutions of higher education. Therefore, in Louisiana, judicial decisions appear in direct conflict. The situation is also very confusing in Mississippi, also in the Fifth Circuit Court of Appeals, where a 1980 consent decree mandates that the University of Mississippi law school admit up to 5 African-Americans and that they may use race as a factor in doing so (Healy, 1998).

The evolving judicial environment, where race is increasingly more suspect, is mirrored in California where racial preferences in college and university admissions are now forbidden in law. Proposition 209 bans preferences so that the California public institutions of higher education cannot consider race, ethnicity or gender in admissions. Without direct consideration of race, policies that assert no means by which to offset social and economic disadvantage and instead assert measures associated with social and economic advantage, will obviously result in more segregated student bodies. For example, Berkeley inflates the GPA of students who score well in Advanced Placement. In 1997, over 35,000 white students took Advanced Placement examinations while only 2,412 African-American students took the exam (Stecklow, 1998). The fact that the Ninth Circuit U.S. Court of Appeals has upheld a U.S. Constitutional based challenge suggests that a an amendment like 209 will be very difficult to defeat or even alter. For more information on the legal issues surrounding minority-targeted admissions and financial aid, see Hefferman and Bazluke (1996).

These issues are also being debated at the federal level. For example, Representative Frank Riggs of California has proposed a bill, modeled on California Proposition 209 to ban affirmative action programs in higher education and racial preferences in admissions to colleges and universities. Although it has received some strong support, the bill has not passed and opponents say it would be unconstitutional (Lederman, 1998). In other recent congressional action, an amendment to eliminate the federal funding specifically set aside for women and minorities for highway projects was tabled and seen as a positive vote for an affirmative action program (Affirmative action wins a major victory in the U.S. Senate, 1998).

Over the past three decades, the operational measure of *de facto* discrimination has been racial distribution. Proportional representation was typically the first goal of any desegregation effort and remedies that produced acceptable numbers were legally adequate. Now these simple remedies may be forbidden in law. That may be just as well as the results have been disappointing. How disappointing? From 1976 to 1988 the number of 18- to 24-year-old African-Americans increased by nearly 8%, the proportion going to college decreased by about 5%. So while the number attending college increased over this period, the number not attending increased more (Astone & Nunez-Wormack, 1990, p. 32) Perhaps one reason that the results were disappointing was because the admissions interventions did not specifically address the circumstances of disadvantagement that were the legacy of segregation – circumstances not limited to minority applicants by the way. Maybe affirmative action would be attacked less often and with less zeal if it were directed toward alleviating the barriers faced by

all in similar circumstances, but more frequently by African-Americans (Fuller & McNamara, 1978).

Relevant Admissions Policies

A timely measure of the complexity that now exists is the admission policy of the University of Michigan. Until this most recent fall, the University of Michigan's freshman applicant evaluation process began with 10th and 11th grade point average in academic courses then added fractions of a grade point for a variety of factors. These factors included economic, social and educational disadvantagement (i.e., under-represented minority group membership, predominate minority high school graduate), familial affiliation (child, grandchild, sibling or spouse of Michigan alumnus), quality of high school, rigor of program of study, and geographical residency (rural Michigan or Western U.S.). While admission practices changed somewhat in 1997 from those attacked in *Gratz v. Bollinger*, the University of Michigan continues to favor minority races. The earlier policy, where applicants were evaluated using one of four different adjusted grade point average by test score grids (minority in-state, minority out-state, majority in-state, majority out-state), has been changed to the use of a common grid where these measures are now weighted like other characteristics consistent with diversity goals. Whether this change nullifies the foundation of Gratz v. Bollinger is unclear.

One thing that is clear is that the University of Michigan is not apologetic in its continued commitment to diversity. A question and answer document available from the University's Office of University Relations (December 15, 1997) (www.umich.edu/~newsinfo/Admission/admisfaq.html) states the following.

> "The University of Michigan will continue to use race as a factor in making admissions decisions as long as it is lawful to do so and has no intention of changing this policy. Of course, we are continually evaluating the mechanics of the process and may change aspects of it from time to time but not in any way that fundamentally alters our commitment to achieving a racially diverse student body."

It is unclear whether the University of Michigan's policies will be judged acceptable. If so, then racially diverse student bodies become more likely.

Another example comes from Texas and is in response to *Hopwood*. Texas A&M Medical school has instituted a new, race-neutral admissions policy in which students gain admission without taking the MCAT through the Partnership for Progress Program. Under this program, high school students who show the potential to become doctors are identified in areas in which the number of doctors is low. Although the policy identifies students without regard to race, the areas with fewest practicing doctors are usually in communities which are

predominantly either black or Hispanic. Therefore, the students who are recruited for the program are also predominantly either black or Hispanic. (Texas A & M surgically removes the MCAT test as a prerequisite for admission to medical school, p. 10). The University of Wisconsin System has also focused on outreach and recruitment and these approaches may represent currently viable alternatives to simple race-blind policies. However, they have not withstood judicial judgement. This paper examines another possibility, that social and economic diversity is a worthy goal for public institutions and that disadvantagement can be a means to achieving racial diversity.

Alexander Astin (1978) struggled with the question whether any policy that does not specifically consider race might produce a racially diverse student population two decades ago. Astin tried to create admissions policies that would yield the proportional racial distributions then required by law without directly considering race. His effort was founded on the principle that public support for special minority programs was largely support for helping people overcome the social, economic and educational handicaps of discrimination. He noted that public resistance increased as special policies emphasized race rather than social and economic disadvantage. Using a disadvantagement index computed from the sum of standardized scores on parental education and income, Astin compared the minority composition of eight alternative admission strategies. Those strategies varied by selection-ratio used, measures included, and weights assigned. When applied to the applicant pool, models that incorporated test scores, either singularly or in combination with other measures, produced the least representative freshmen class. Class grades were less of a problem and a strategy that equally weighted grades and disadvantagement yielded nearly proportional representation. In sum, Astin was able to produce accepted applicant groups of nearly any racial composition by varying the admissions measures and weights assigned. Unfortunately, substantial disadvantagement weight was required to overcome academic admission measures.

Perhaps Astin's was an idea that should be reconsidered. Perhaps diversity should be viewed more broadly than racial composition and should address the question of overcoming the lingering social and economic vestiges of discrimination instead of numeric targets that ignore disadvantagement or even state residence.

Applying Astin's research to the University of Michigan example illustrates the challenge that might be faced if race could not be a factor in admissions. Using the Astin (1978) findings for a selective institution like Michigan (about 1-in-4 admitted), would suggest that Michigan's policies would have to equally weight disadvantagement and grades or weight disadvantagement twice the amount of grades and test scores to produce a situation where

about 1-in-4 African-American students were selected. According to the *Chronicle of Higher Education* (February 27, 1998; p. A38), Michigan's current policies weight academic factors nearly four times as much as non-academic factors. Using Astin as a guide, the University of Michigan's combination will not achieve the University's diversity goals unless admission counselors continue to apply judgement and use the flexibility inherent in the grid to achieve diversity.

Admissions Measures and Predictive Bias

Before attempting to create diversity through social and economic affirmative action, a better understanding of the interaction of admissions measures, student performance, and economic, social and geographic factors will be useful. After all, any admissions system is a method of limiting access to higher education and as such should pass muster regarding fundamental questions of validity. Are the measures employed useful predictors of academic performance and is their usefulness unaffected by race and social or economic status? In other words, are the required measures valid and are they equally valid for all applicants. The issue is statistical association and it can be simply measured by linear regression or correlational techniques (Linn, 1984).

There is an argument ignored by this type of analysis. That argument states that required admissions measures are culturally biased and only function well when predicting performance in college because the college experience is similarly biased. A measure that is strongly correlated with postsecondary performance for both African-American and white students is not necessarily free of criticism. The possibility raised by this argument is recognized but is beyond the scope of this paper.

The admission measures most frequently attacked as racially and culturally biased are admission test scores, but arguments are also made opposing the use of academic outcome variables like high school class rank or high school GPA. Therefore, three measures: ACT, high school percentile rank in graduating class, and high school grade point average will be correlated with the grade point average in the first semester to determine predictive validity.

Much of the research presented in this paper was based on comprehensive statewide databases. However, those databases did not include the postsecondary academic performance information necessary to address whether predictive validity varied by social or economic groupings. Instead of statewide databases, University of Missouri data for the four campus system will serve as the research database for validity questions.

The predictive measures used were ACT, percentile rank in high school graduating class, and high school GPA in core area courses (English, math, science, social studies, foreign

language, and visual or performing arts). Demographic variables considered included race (African-American or other), high school student body wealth (quartile based on percentage of students qualifying for free- or reduced-price lunches), parental adjusted-gross-income quartiles (from FAFSA submissions), and parents' level of education (neither had college degree, one had college degree, or both had college degree). The dependent measure of academic performance was fall grade point average for degree-seeking, full-time freshmen who were recent graduates of Missouri high schools. Throughout the paper, African-American students will be the only disadvantaged minority identified because, proportionally, Missouri has very few American Indians or Hispanic students – too few to support separate analysis.

The following observations pertain to Table 1 and associated figures. The top half of Table 1 displays simple correlations of ACT, class rank, and high school GPA with freshman GPA by parental income, parental educational level, and high school student body wealth. The correlations were computed separately for African-American students and all other students and the absolute value of the difference between these two groups is shown. The number of observations in the correlation are also shown. The bottom half of Table 1 reports mean values, the intercept, regression coefficient, and variance explained of simple regression models. Selected values of each variable are then used in the regression equations to produce predicted grade point averages based on the equation for African-American students, other students, and the difference between predicted values resulting from the two equations. This difference is labeled "advantage" but negative values represent disadvantages.

Table 1 & Figures 1-3

The term "advantage" was selected based on prior research. Of the several reviews of research available, all were in agreement that there were few cases of predictive bias and where differential predictive-bias was found, the use of a common regression equation resulted in over-prediction of African-American performance (Breland, 1978; Cole, 1981; Hargadon, 1981; Linn, 1984). Statistically, systematic over-prediction would tend to result in higher standards being required of African-American students for a given grade point average, a politically and ethically unimaginable situation. But the over-prediction observation does not explain the subtleties of the interrelationships. While generally supporting to conclusion of over-prediction, the following discussion will show that the situation may be very complex. The following section will address the fundamental question of predictive validity and suggest how any observed differences might influence admission policies.

ACT

ACT's predictive validity has been shown to be remarkably unassociated with demographic variables in past studies at the University of Missouri. While not as strongly correlated with freshman grade point average as high school performance measures, it has been very consistent. In this study, its overall correlation with freshman GPA was 0.39 (n=4,488). For African-Americans it was 0.36 (n=301) and it was 0.39 (n=4,187) for all others. Not only were these correlations similar, the correlations across parental education, income, and high school wealth were generally of similar strength. However, there were a few exceptions. For African-American students in the 2nd quartile of high school wealth, the correlation was not significant at a 0.05 level. The correlation was also not significant for first-generation African-American students. In these cases, and for African-American students whose parents earned $44K to $66K, the sample sizes were fairly small and except for first-generation students, probably of little importance. The correlations for other students display little variance across social and economic groupings.

Simple regression lines showing the predicted relationship between ACT and freshman grade point average appear as the first figures. Relying on the figures, or the appropriate values of Table A, it is obvious that the two lines are remarkably similar and are essentially interchangeable for African-American or other students. The ACT generally behaves as desired. It is a valid predictor that works reasonably well across many student groups.

High School Grade Point Average

High school grade point average in core area courses was generally a better predictor of freshman performance than was ACT. The correlation as 0.49 for all students (n=3,939) compared to 0.39 for ACT. In addition, a similar level of association was true across income, educational and high school characteristics and the exceptions that occurred were not monotonically associated with variable level. For example, high school GPA was somewhat less strongly correlated with freshman GPA for students whose parents earned somewhere between $25K and $66K but the correlations were higher at both extremes. It should be noted that the pattern for African-American students was generally weaker than for other students. This can be assessed as a lower correlation or a slightly flattened regression line.

In spite of the small difference, the two regression lines are obviously very similar and predicted grade point averages differed by no more than about 0.10 across the range of typical values. In sum, high school grade point average was generally a better predictor of freshman performance that ACT and its predictive ability was little affect across social and economic groupings for most students and in most cases. It was much less clear that high school grade

point average worked as well for African-American students. The numbers were unfortunately small, so the possibilities suggested will have to pursued at another point. In any event, the regression lines were close throughout the range of most high school grade point averages, so separate equations were probably not justified even though the variance explained by the African-American regression was nearly 10% less than that for other students. Even at 24% of variance explained for African-American students, high school grade-point-average was well above the 13% variance explained by the less economically affected ACT.

Percentile Rank in High School Graduating Class

High school class rank does not predict freshman performance as well for African-American students as for other students. The simple correlations differed by 0.21 and variance explained differed by 14%. The pattern across variable levels was not clear but the large differences and the frequency of low correlations was cause for some concern. When this analysis was compared to that of an earlier University of Missouri study based on a larger student population of over 10,000 students, campus-level analyses were possible. These campus level results show that high school student body wealth is an important factor in explaining the weaker correlation for African-American students. One explanation is that high school rank serves as a less suitable predictor for students from poorer high schools and African-American students were over-represented in poorer high schools (Chatman, 1992 and 1996). The regression equation and resulting second figure illustrate that the differences were fairly pronounced (difference of 0.15 GPA or greater) for ranks at about the 50th percentile or less or the 80th percentile and above and these were fairly common levels of class rank.

Subtlety of interpretation for an observation of systematic over-prediction was mentioned earlier and will be described here using the relationship between class rank and freshman GPA. At most levels of class rank common for university students, use of a common regression equation would tend to over-predict the performance of African-American students. Note that the majority of observations occur above about the 65th percentile where the two lines intersect. For any class rank above the intersection, an African-American student's performance would be predicted to be higher using the line for other students although either line would yield similar predicted values throughout the range from about the 50th percentile to the 80th percentile. Notice that the regression lines differed because the correlation was much less for African-American students and if separate admission policies were created based on a predicted GPA, 2.5 for example, the policies would differ greatly. The class percentile rank predicting a 2.5 for African-American students was the 52nd percentile. For African-American students, it was the 35th percentile. For ranks below the intersection, separate policies would make access easier for

African-American students. Below the intersection, separate policies would advantage African-American students. Above the point of intersection, the reverse would be true. If the admission policy were a predicted GPA of 3.0, and separate equations were used, then the required class rank for other students would be the 79th percentile and the 97th percentile for African-American students. Fewer African-American students would qualify for grade point averages above the intersection. So while systematic over-prediction was found which would systematically advantage African-American students, over-prediction was limited to the range above the intersection of separate regression lines. All things considered, high school percentile rank was a valid predictor but functioned less well for African-American students.

Before states move to race neutral policies, it might be to their advantage to access again the validity of those measures that are being considered. If those measures do not function equally well for students of different races or of different economic or social circumstances, then their "blind" use is questionable. In general, the results here support those of Breland (1985) who noted that high school GPA and high school class rank had less differential impact in admissions than did regression-based models including test scores. Unfortunately, Breland did not report how well these measures predicted performance.

Ideally, a state's public university student body would look similar to its citizenry. It would include poor and wealthy males and females from all parts of the state who were black and white and the student body would include students from other states and nations to create a more stimulating learning environment. In the ideal world, this would be accomplished by applying common admissions standards to all applicants because all groups score equally well and the standards are equally effective in predicting academic performance. In the real world, proportional representation will not happen unless the admission standards go beyond test score, high school GPA and class rank and it will not happen unless the associated patterns are better understood. The next section attempts to clarify attendance patterns that exist within racial, economic and social contexts. It then assesses the effectiveness of economically and socially-based interventions to overcome the apparent tracking.

Methodology and Results

These analyses were made possible by the support of the Missouri Coordinating Board and Department of Higher Education that is in the process of reviewing its admission guidelines established in 1992. The 1992 guidelines created four tiers: highly selective, selective, moderately selective, and open enrollment institutions based on the sum of test score percentile rank and percentile rank in graduating class. Nearly a year ago, a University of Missouri Task Force on Access had concluded that statewide context would be required to determine whether

financial and social barriers to access exist as enrolled students clearly had overcome any barriers. Missouri's Commissioner, Dr. Kala Stroup, recognized the University's need for broader information and, for purposes of this research initiative, joined the project by providing access to records on student-level enrollment (EMSAS), financial aid applications (FAFSA), and test score records (ACT). These records made possible an examination of the interrelationship of economic circumstance and attendance among public institutions that vary in program offerings (2- or 4-year), cost, location, and selectivity of admissions requirements.

EMSAS records included all first-time freshmen enrolled at Missouri's public postsecondary institutions in the fall of 1997. Both FAFSA and ACT records included many of these students and many others. Ideally, the relationship between ACT, FAFSA and EMSAS records might help locate students with an interest in higher education who did not enroll, but the inability to control for out-of-state, private, or proprietary institution enrollment forced restriction to the 24,933 EMSAS records. Any records from ACT or FAFSA that could not be merged with EMSAS records were excluded. Secondly, because the study focused on patterns for the state of Missouri, students from high schools outside the state were excluded. This resulted in a core set of 20,570 first-time freshmen. Of these 20,570, 9,516 had FAFSA records and 16,875 had ACT records.

Because this study relied on records from a variety of partial sources, the first analyses were directed toward the question whether FAFSA and ACT records could be treated as an approximate samples of EMSAS records and as samples of each other. EMSAS, FAFSA, and ACT records were compared on five dimensions: sex, race/ethnicity, college core of high school courses, wealth of the public high school attended, and parental gross income. The results of comparison are shown in Table 2.

An extremely important dimension to the study was social and economic status as measured by wealth. There were two sources of information regarding wealth compared. The first, annual parental income, came from ACT self-reported information. The second, parental adjusted-gross-income as reported on Federal income tax forms was from FAFSA. Table 2 showed the comparison where ACT income intervals were applied to FAFSA records. Cell proportions and cumulative proportions were clearly very similar and differences might be attributed to a variety of explanations but certainly the accuracy of student knowledge of parent's income would be one.

The second comparison was of sex distribution, a variable available to this project from each of the three sources. This table shows that FAFSA records were slightly more likely to be of females but that the difference was 3% or less. Distribution by race/ethnicity was also very

similar among the three sources. The largest differences were found when comparing likelihood of completing core requirements in high school. The core requirements for all public 4-year institutions in Missouri's are minimally 4 English, 3 math, 2 science, 3 social studies, 1 art or performance, and 3 electives from these areas or foreign language. In addition, the University of Missouri requires 1 more unit of math, 1 more unit of science, 2 years of a single foreign language, but does not require additional electives. Using transcript records reported by the institutions or from ACT when EMSAS records were not available showed that students with FAFSA records were somewhat more likely to have complete the core (85% v. 80%) but the differences are fairly small. The last variable used to compare students from the three data sources was wealth of the high school attended. Wealth of high school was defined according to the student body, specifically, according to the proportion of students attending the high school who qualified for free- or reduced-price lunches. All public high schools were sorted into on of 4 groups that represented an equal number of total enrolled students (not equal numbers of high schools). This information was made available by the Missouri Department of Elementary and Secondary Education. By way of explanation, if students from high schools in the quartiles were equally likely to attend college, the distribution should have been uniformly 25%. The fact that students from high schools in the poorer quartiles were less likely to attend college is a first indication that economic circumstance might be a barrier. However, the more important feature here is that the distributions were very similar among the three sources. In sum, FAFSA students, ACT students, and EMSAS students were similarly distributed along demographic and economic dimensions. But, while the distributions are similar, there is surprising variation among institutions.

Table 2

Table 3 reports the match of EMSAS and FAFSA records. Clearly, students attending 4-year institutions were more likely to complete FAFSA forms and students attending more expensive 4-year institutions were more likely to submit forms than were students attending less expensive institutions. The relationship between proportion submitting applications and cost does not hold for 2-year schools. Among 2-year schools, the proportion submitting FAFSA forms varied widely from 60% at West Plains to 21% at the Jefferson and Longview campuses of the Kansas City Metropolitan Community Colleges. This variation is a reminder that regions of Missouri are not equally prosperous. The districts served by 2-year institutions may be relatively poor, as was true of the rural southeast and north-central areas, or relatively wealthy as was true of Kansas City and St. Louis suburban areas. These differences will be made more clear subsequently. At this time, the more important point is that 2- and 4-year institutions will

not be equally represented by FAFSA records. That is not to say that the students attending these institutions necessarily differ in economic status but they might. It may well be the case that application is more a function of cost and so students planning to attend 2-year schools are less likely to foresee a need for support.

Table 3

Selectivity

In Table 4, the 13 public 4-year institutions were sorted into 1 of 4 tiers based on selectivity. Missouri pubic 4-year institutions require students to submit high school rank and test scores and admission is generally based on the combination of high school percentile rank in class and national norm test score percentile (ACT's 1991 high school graduating class norms were used here). Some students submit SAT scores but the number is relatively small and these have been converted to equivalent ACT scores. The use of combined percentiles reflects a statewide effort to create 4 levels of admission selectivity: highly selective, selective, moderately selective, and open-enrollment. While each institution has identified a selectivity category, for many institutions, the category standards tend to function more as a goal than as absolute standards. Because schools vary in practice from the selectivity category standards, a different method was used to sort them into tiers. For the purposes of this study, the schools were sorted according to the 10th percentile of the combined percentile distribution. The assumption was that any student with a combined percentile at or above the 10th percentile for that institution's admitted students would likely be admitted. It is a form of *de facto* as opposed to published minimum admission requirements. The application of the four tiers will be shown later in the paper where the impact of disadvantagement adjustments on student distributions is measured.

The most selective tier includes a pubic liberal arts institution, Truman State, and a campus of the University of Missouri that is composed largely of engineering students, UM-Rolla. Two of the remaining three campuses of the University were the second tier. The third tier was primarily regional 4-year institutions with masters programs. The last tier was 4-year public colleges, an 1890 Land Grant institution and an urban institution with a largely African-American student body studying to complete education degrees. In sum, selectivity roughly correlated with cost and with likelihood of FAFSA submission. As reported in the final column, high school rank and test score information was available for the vast majority of students.

Table 4

First-Generation

Statewide, 40% of students were first-generation -- neither of their parents had graduated college. Of the remaining 60%, about half had one parent with a college degree and half had two parents with college degrees. The most striking observation about Table 5 is that parental education follows the same trend as did FAFSA application and selectivity. Generally, first-generation students were more likely to enroll at 2-year institutions and were more likely to enroll at the less selective 4-year institutions. In contrast, it was unusual for children of college educated parents to attend 4-year public colleges or community colleges. Again, there was much variation among institutions within type.

Table 5

High School Core

The trend of selectivity correlating with cost, FAFSA application, and parental education continues in Table 6 where likelihood of high school core completion follows the same pattern. Statewide, 80% of freshmen completed a college-preparatory core in high school as did 92% of those attending 4-year institutions. Noting that these proportions were limited to those with data available either as transcript records from EMSAS or self-report data from ACT, the proportions were striking. Completion of a high school preparatory core was clearly associated with 4-year school selectivity and 2-year school enrollment. One characteristic of core that makes analysis even more interesting is that core is the result of behavior within the student's control. Students do not pick their parents or their economic circumstances, but they can pick their high school courses.

Table 6

High School Student Body Wealth

The pattern in Table 7, Wealth of High School Student Body, shows less correlation with the general economic trend shown in prior tables. Here the pattern appears to more closely reflect reliance on service region and variation among service regions. For example, 81% of the students attending St. Charles Community College were from high schools in the wealthiest quartile while only 1% of those attending North Central were from wealthy high schools. This difference was obviously the result of different local economic conditions in rural north central Missouri and suburban St. Louis. That noted, students attending more selective and expensive 4-year institutions were generally less likely to have attended high schools with a relatively large number of poorer students. Of course, a problem with wealth of high school student body is that it is a measure of the high school, not to the individual student. Table 8 addresses that limitation.

Table 7

Parental Adjusted-Gross-Income

Table 8 was generated by creating four groupings of equal number of students based on their parent's reported income. Therefore, a distribution of 25% in each quartile was forced upon the data by using breakpoints at about $25K, $44K, and $66K. Generally, students from less wealth homes were more likely to enroll at 2-year institutions and at less selective 4-year institutions. With few exceptions owing to suburban location, there were relatively few wealthy students attending 2-year community colleges or 4-year colleges. In contrast, there were relatively few students from the least wealthy group attending schools in the two top tiers. Together with Table 7 that displayed the distribution by high school student body wealth, it would appear that the wealthier students from the poorer schools were increasingly likely to enroll in more selective 4-year universities.

Table 8

Sex

Table 9, Sex of Students, shows nothing unexpected. Generally, more women than men go to college and deviations from that observation are explained by disciplinary patterns. Fewer women than men enroll in engineering which limits their number at UM-Rolla and fewer men than women enroll in education programs which limits their number at Harris-Stowe. There were a few possible exceptions that might bear closer scrutiny but none which obviously suggest a differential economic barrier by sex. Therefore, sex will not be a factor of concern in the remainder of the report.

Table 9

African-Americans

Table 10 displays the proportion of African-American students attending each institution. African-American students were the only minority group identified for this paper as Missouri higher education enrolls very few Hispanic students and Missouri has relatively few Hispanic citizens. Overall, about 8% of freshmen students attending public postsecondary institutions higher education are African-American and the proportions varying greatly by institution and location. Lincoln University is an 1890 Land Grant school and is about 32% African-American. Harris-Stowe is a historically African-American school in St. Louis and Penn Valley, Forest Park, and Florrisant Valley are geographically close to large numbers of African-Americans. In contrast, parts of Missouri have very few African-Americans and their proportion of enrollment is extremely small, and in some cases, nonexistent. Generally, more African-American students attended 2-year than 4-year institutions and few attended high selective 4-year institutions. The

pattern among the regional universities of the 3rd tier and the colleges of the 4th tier appears geographically determined.

Table 10

Measures of Central Tendency

The median values of four descriptive measures are shown in Table 11: parent's adjusted gross income, ACT, percentile rank in high school graduating class, sum of ACT and class rank percentiles, and straight-line distance from county of high school to county of postsecondary institution. These measures are shown for each of the 4-year institutions and for groups of students clustered by parent's educational level and income. Median income clearly shows a direct association with selectivity. Students from less wealthy families tend to enroll at less selective universities and colleges and families in which parents were better educated had higher incomes. Selectivity was logically associated with ACT score, high school class rank, and total of score and rank as these were the measures used to admit students. Less obvious was the fact that ACT score varied directly with parents educational level and income and, to a lesser extent, so did high school class rank. Linear distance was also generally associated with institutional selectivity and students with better educated and wealthier parents traveled further on average for higher education. Median distance is a marginally useful measure as it only describes the middle case and for most of these institutions, linear distance was distance from nearest major urban center.

Table 11

Taken singularly, these variables suggest that economic and social barriers do exist but that the nature of barriers is complex. Four-year institutions generally, and more selective 4-year institutions especially, tended to enroll students with more advantages: better educated parents, parents have higher income, students attended high schools with fewer poor students. Students from these conditions tended to score higher on the ACT, were more likely to complete the core course requirement in high school, and were willing to travel further to attend school. Table 12 begins the task of examining some of the key interrelationships among variables.

Interrelationships

Table 12 shows the joint distribution of parental education and income. Collectively, there were few surprises. In general, better educated parents had higher incomes (40%) but many did not. Fourteen percent of families where both parents had college degrees earned less than $25K. Conversely, an equal percentage of families where neither parent had a college degree earned more than $66K. One compelling observation to be made of these data is that parental educational level was very clearly associated with income. Also noteworthy was the

fact that students with better educated parents attending 2-year schools were more likely to be from the atypical group with income less than $25K and first-generation students whose parents were in the upper quartile were more likely to attend 4-year schools. Overall, 14% of students with college educated parents earned less than $25K but for those attending 2-year schools, the figure was 24%. Conversely, while 14% of families without a college educated parent earned $66K or more per year, the corresponding figure was only 8% for those attending 2-year schools.

Table 12

Table 13 provides a similar display except that the columns now reflect wealth of the high school student body. While similar to the patterns of Table 12, the interrelationships are less clear. It is clear that better educated parents tended to live in areas served by public schools with fewer poor students, but that was true for freshmen attending both 2- and 4-year schools. In fact, the 2- and 4-year patterns were remarkably similar.

Table 13

Table 14 distributes students by parental adjusted gross income by wealth of the high school student body and shows more clearly the interrelationship of parental income and high school wealth than did Table 13. Students with wealthier parents were much more likely to have attended high schools with wealthier student bodies. For example, 42% of students with parental adjusted-gross-incomes of $66k or more attended the wealthiest quartile of high schools. Only 17% of those with parents earning $25K or less did. The interaction of parental wealth and wealth of high school does combine to affect the type of institution attended. For example, while 53% of those attending high schools from the poorest quartile did not have a parent with a college degree, only 39% of those attending 4-year schools fit this pattern. Among high schools in the same quartile, parental income influenced the type of institution attended. Compared to the patterns shown in Table 13, this suggests that parental income, more than parental education, influences type of institution attended among students from high schools in the same quartile.

Table 14

Summary of Observations

Considered collectively, these data help show the spiraling nature of economic circumstance and education. For the most part, students with wealthier parents are also students with better educated parents. They live in areas served by wealthier high schools, they score higher on the ACT, and they are more likely to have completed a college preparatory core in high school. They are subsequently more likely to attend 4-year schools generally and more

selective schools specifically and are willing to travel further to do so. In contrast, first-generation students tend to be from poorer families, attend high schools with more poor students, have lower ACT scores, and are less likely to have completed a college preparatory core. Subsequently, they are more likely to attend 2-year institutions. Put simply, this is not a playing field that can be made level by need-based financial aid offered for college attendance. Access to more selective 4-year institutions is made more likely by the existence of available aid but economic and social barriers to attendance at 4-year institutions generally, and more selective institutions specifically, continues to be a problem.

How do these patterns affect African-American students? Table 15 begins to address the question by contrasting the social and economic conditions of African-American and other students. The observations are unfortunately as expected. Even noting that African-Americans are less likely to attend higher education, those who do are more likely than other students to be from poorer families, to be first generation, and to have attended high schools in the poorest quartile. Overall, 25% of students have parents earning $25K or less. Nearly half (47%) of African-American students' parents earn $25K or less. Overall, 40% of students were first-generation. Forty-five percent of African-American students were first-generation. Overall, 16%. of all students had attended high schools in the poorest quartile. Thirty-five percent of African-American students attended high schools in the poorest quartile. Considered collectively, African-American students are more likely to face economic and social barriers to attendance. Given that African-American students face barriers disproportionately, it might be possible to accomplish racial diversity targets by ignoring race and instead attacking the social and economic barriers faced by students of all races.

Table 15

Social and Economically Directed Intervention

Recall from Table 1 that 8% of all traditionally-aged first-time 1997 freshmen from Missouri high schools were African-American. Unfortunately, ACT and high school rank figures were not as available for African-American students. Within the limits of available data, 6.1% of freshmen were African-American. This 6.1% includes some students enrolled at 2- and 4-year institutions. They were included if rank and test score information were available, but 2-year institutions did not require this specific information of all students so many were lost. The target proportion for this intervention is therefore 6.1%.

Table 16a displays the percentage of students that were African-American by 4-year institution selectivity tier as the outlined figure in the lower-left of each small table. Students were distributed solely on the basis of sum of test score and high school class rank percentiles.

The tiers were defined as students with totals of 50, 80, 110, or 140 and above. Recall that these are roughly the totals that fell at the 10th percentiles for clustered 4-year institutions. Also note that the tiers are cumulative in that students who qualified for the most selective tier also qualified for the least selective tier. This is especially important in Missouri because this state has a system of overlapping tiers with competing merit-based scholarship programs.

Table 16a

Using race-blind policies without adjustments for social and economic barriers would produce pools of admitted applicants that were 2.7% African-American in the most selective tier, 3.9% in the next tier, 5.0% in the third tier, and 5.6% in the most open tier. Each cross-tabular display in Table 16a shows the resulting percentage produced by adding various numbers of points to the percentile totals based on high school student body wealth (poorest quartile), parental adjusted gross income (less than $25K), and the combination of both. In the extreme case for tier one, 75 points were added for a parental income less than $25K and 75 points were added for high school in the lowest quartile based on percentage of students qualified for free- or reduced-price lunches. In this extreme intervention, a student from a poor family who attended a poor high school would have 150 points added to their percentile total and would automatically qualify for admission to the most selective tier (minimum of 140). In this extreme case, the percentage of the admitted pool of students who were African-American was 5.2%. Speaking generally, adjustments for parent's income were slightly more successful than those for school wealth.

While the weightings were unable to reach the target value, the tables do show that base-rate racial distributions can be significantly improved by modest social and economically-based adjustments common to students of all races. What intervention would have been required to reach parity if the policies were race-conscious? An adjustment of 41 points for African-Americans would produce a top tier pool that was 6.1% African-American. Not surprisingly, the most efficient way to reach racial distribution targets was by race-conscious adjustments.

Tables 16b and 16c ignore race and address the question of what adjustment would be required to create accepted pools by tier that were distributed the same as the larger pool according to school wealth and parental income. The adjustments again considered both high school student body wealth and parental income. It should be no surprise that under-representation by high school student body wealth was overcome with fewer additional points when those points were based on attending a poorer high school and vice versa. An

intervention designed to directly combat under-representation will do so with fewer points added than interventions based on other characteristics.

To reach parity by parental adjusted gross income of $25K or less, only about 10 points need be added based on parental wealth while nearly 75 points were needed based on wealth of high school student body. Reaching parity by student body wealth required about 10 points added based on student body wealth or about 50 points added based on parental income of $25K or less. Interventions providing advantages for both poor parents and poor high schools did not fare much better than the more focused interventions that directly intervened toward the target.

Tables 16b and 16c

The potential success of a Texan approach of admitting students based on high school class rank was examined and the results are shown in Tables 17 and 18. Even though the predictive validity of class rank is not as high as high school grade point average, and even though the predictive validity of class rank varies more by race and social and economic circumstance, its use in admissions does create a numerically more diverse student body for Missouri. Missouri's 4-year public institutions have been sorted according to selectivity in Table 17 and the base rate and intervention rates are shown in Table 18. Compared to the base rates of Table 16a, a tiered system that used high school class rank did produce a more racially diverse student body than a system that used test score and rank. This replicates Astin's observation (1978) that models including test scores were required greater adjustment and it generally supports the diversity objective of the Texas policy.

Summary

Public support has always been stronger for creating opportunities for qualified students to overcome disadvantages than for interventions based on race even if race and the likelihood of being disadvantaged were highly correlated. In retrospect, if discrimination remedies had been more concerned with equitable opportunity and less with proportional representation, universities might have developed policies that would have been both better received and more successful. As it is, the policies were not particularly successful and are being eliminated by legal challenge and political action.

This paper was structured to answer four questions. First, what were the key judicial and legislative actions regarding racial preference in the admissions process, the use of affirmative action to reach proportional representation, and the recent movement toward race-blind policies? Second, are commonly used admissions measures valid and is their validity different for students of different races and economic circumstances? Third, is there evidence that

economic barriers to postsecondary attendance exist among public institutions in spite of affirmative action programs and financial aid opportunities? And fourth, can admissions models designed to overcome social and economic barriers faced by students of all races produce racially diverse student bodies?

The review of important judicial and legislative actions acknowledged the movement from segregation to integration with the concomitant issue of evidence of discrimination and of compliance. Put succinctly, the evidence of discrimination and later compliance was largely enumerative. It was suggested that the emphasis on proportional representation might have led to simple affirmative action efforts that have, in turn, been of limited success and are now being attacked. After all, if a public institution were to achieve proportional representation by offering full scholarships to middle-class minority students from other states based solely on race, some backlash should be expected. It was argued that policies designed to offset economically related disadvantages would have a higher likelihood of acceptance and perhaps even long-term success.

The second question addressed an issue that is fundamental in admissions but is often overlooked. Are the admissions measures required valid predictors and are they equally valid for students of different races and different circumstances? The issue of race-bias in admission is not made moot by judicial action or legislation that eliminates race from the admissions process. If a uniformly applied admission policy incorporates a measure that effectively eliminates a minority race, it had better be able to demonstrate that the measure is an effective, bias-free, predictor of postsecondary academic performance. Three measures were studied: ACT, high school GPA in core courses, and percentile rank in high school graduating class. ACT was shown to be largely free of race bias, but class rank, while generally a better predictor, was not as effective a predictor for African-American students and for students from high schools with more poor students. High school GPA was generally as good a predictor as class rank and showed less evidence of economic and racial bias. It was noted that high school class rank functioned to systematically over-predict African-American student performance and was therefore, largely harmless in admissions for the majority of African-American students.

The third question addressed evidence of economic barriers to attendance at 4-year colleges and universities. Do economic and social barriers exist that hinder enrollment of students at 4-year colleges generally and selective universities specifically? Yes, and as African-Americans were disproportionately disadvantaged, they met these barriers more often. Evidence of existing barriers to admittance and enrollment included differential preparation, familial experience, and personal financial resources. Students attending more selective 4-year

institutions were more likely to be from more wealthy families, to have attended high schools with fewer poor students, and to have parents who both graduated college. These students were more willing to travel further to attend school and were more likely to have completed a college preparatory core while in high school. They also had higher ACT scores. As African-American students were more likely to be from poorer circumstances, they faced admissions barriers more often.

The fourth question attempted to obtain proportional racial representation by offsetting the economic disadvantages more often experienced by African-American students. Can proportional representation be attained by overcoming those economic barriers faced by minority and majority students? Yes, or at least representation in the pool of accepted applicants can be much improved. In terms of the admitted pool, relatively modest point-based interventions can overcome the social and economic barriers, but much larger point-based interventions were required to reach racial parity. Whether the magnitude required for racial parity would be publicly acceptable is questionable. A switch to admissions based on class rank alone was also considered and was found to be more successful initially. It would also probably be more easily supported by the public. Unfortunately, the reason that class rank would function better was that it does not predict performance as well for African-American students. For purpose of comparison, race-conscious policies were considered and were found to reach parity with less adjustment. The most expedient interventions were those based directly on the target characteristic, an obvious finding but one to remember.

It should be noted that barriers met at admission are not the only postsecondary barriers disproportionately faced by African-American students. Even before the recent judicial and legislative actions, federal programs were shifting support from grants to loans and were reducing the real value of both. For example, the value of the average Pell grant declined by 24 percent from 1975 to 1990 while the real value of loans declined (Mumper, 1993). This produced a situation where 4-year colleges became less affordable for poor students and 2-year schools became more affordable. This combination may be one of the causes of the declining African-American college-going rate generally and, for those who do attend, the increasing proportion who attend 2-year institutions (Bureau of Census, 1997). Other postsecondary barriers disproportionately faced by African-American students include increased attrition rates and the long-term economic disadvantage of acquired educational loans. Cabrera and colleagues found that social and economic status was positively related to retention and Francis notes the long-term financial consequences of indebtedness. Put simply, poorer students are

more likely to drop out (Cabrera, 1990) and the increasing reliance on loans to create access leads to striking long-term disadvantages in accumulating capital (Francis, 1990).

Limitations

There are many limitations associated with this study. Some of the more threatening are the extent to which students submitting FAFSA forms were representative of students generally, whether the characteristics of the accepted applicant pool would mirror the matriculating student pool even with targeted incentives, and whether institutions could manage the numerically larger pools so that minimum requirements were not simply raised to limit access. Last, the extent to which Missouri patterns were typical of other states is unknown. While Missouri is near midrange on many rankings, including Pell Grant participation rates, it is low on the list when it comes to need-based awards (Johnson & Katsinas, 1997). Also a problem for those from many other states is the paper's exclusive focus on African-American students. Even if Missouri's patterns are similar to those found for other states, the patterns for African-Americans might differ from state to state and might differ from those for other disadvantaged minorities.

Comment

Institutional researchers are encouraged to perform similar analyses for their states before the opportunity to influence policy is lost to legislative action or judicial prerogative. Perhaps information like that presented here will work to better inform decision makers of the likely consequences of the alternatives before them. At the very least, the decision to move to race-blind policies need not be race-ignorant.

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Table 1: Correlations Among Amissions Measures (University of Missouri Freshmen in Fall, 1997)

Variable Levels	ACT					High School Class Rank					High School GPA				
	African-American		All Others		Abs. Val	African-American		All Others		Abs. Val	African-American		All Others		Abs. Val
	R	n	R	n	Diff	R	n	R	n	Diff	R	n	R	n	Diff
Total	0.36	301	0.39	4,187	0.03	0.28	296	0.47	4,127	0.19	0.39	293	0.49	3,846	0.09
Parental Adj. Gross Income															
Parental AGI >$66K	0.35	41	0.44	807	0.09	-0.03	39	0.49	778	0.51	0.23	39	0.51	710	0.28
Parental AGI $44-$66K	0.32	25	0.39	566	0.07	0.41	24	0.43	552	0.02	0.42	24	0.45	481	0.03
Parental AGI $25-$44K	0.39	38	0.32	448	0.06	0.15	39	0.40	438	0.24	0.36	38	0.44	367	0.08
Parental AGI < $25K	0.35	43	0.38	309	0.03	0.22	43	0.46	306	0.24	0.34	41	0.52	283	0.18
Parental Education Level															
Both parents have college degree	0.50	48	0.38	933	0.11	0.09	47	0.45	901	0.37	0.33	45	0.48	818	0.15
Only one parent has college degree	0.37	59	0.39	645	0.02	0.02	58	0.45	629	0.42	0.29	57	0.48	548	0.19
Neither parent has college degree	0.12	60	0.37	574	0.24	0.44	60	0.45	587	0.01	0.47	57	0.51	471	0.04
High School Student Body Wealth															
Wealthiest Quartile	0.47	42	0.41	993	0.06	0.51	42	0.53	995	0.02	0.62	40	0.55	874	0.07
Wealthier Quartile	0.28	59	0.38	935	0.10	0.40	59	0.49	938	0.10	0.47	58	0.51	850	0.04
Poorer Quartile	0.21	33	0.43	646	0.22	0.34	33	0.47	646	0.14	0.24	30	0.55	537	0.31
Poorest Quartile	0.32	53	0.39	300	0.07	0.22	54	0.39	299	0.17	0.38	53	0.42	247	0.06

Simple Regression Equations

	Mean	a	b	r2	Predicted African-American Freshman GPA at Selected Score Levels: Using African-American Regression					Using "Other" Regression					Advantage to A-As Using "Other"				
ACT					19	21	23	25	27	19	21	23	25	27	19	21	23	25	27
African-Americans	23	1.34	0.06	0.13	2.57	2.70	2.82	2.95	3.08	2.53	2.67	2.80	2.94	3.08	-0.04	-0.03	-0.02	-0.01	-0.01
All Others	26	1.23	0.07	0.15															
High School Percentile Class Rank					50	60	70	80	90	50	60	70	80	90	50	60	70	80	90
African-Americans	73	2.22	0.01	0.08	2.62	2.70	2.78	2.86	2.94	2.47	2.65	2.84	3.02	3.21	-0.15	-0.05	0.06	0.16	0.27
All Others	81	1.55	0.02	0.22															
High School GPA					2.50	2.75	3.00	3.25	3.50	2.50	2.75	3.00	3.25	3.50	2.50	2.75	3.00	3.25	3.50
African-Americans	3.02	1.22	0.52	0.15	2.51	2.64	2.77	2.90	3.03	2.41	2.58	2.77	2.96	3.14	-0.10	-0.05	0.00	0.05	0.11
All Others	3.33	0.59	0.73	0.24															

	Score Required for Selected Freshman GPAs (Predicted)														
Fr GPA	2.25	2.50	2.75	3.00	3.25	2.25	2.50	2.75	3.00	3.25	2.25	2.50	2.75	3.00	3.25
ACT	14	18	22	26	30	15	19	22	26	30	-1	-1	0	0	0
HSRank	4	35	66	97	128	38	52	65	79	92	-34	-18	1	18	36
HS GPA	1.99	2.48	2.96	3.44	3.92	2.28	2.62	2.97	3.31	3.65	-0.29	-0.15	-0.01	0.13	0.27

Figure 1: Predicted GPA by ACT

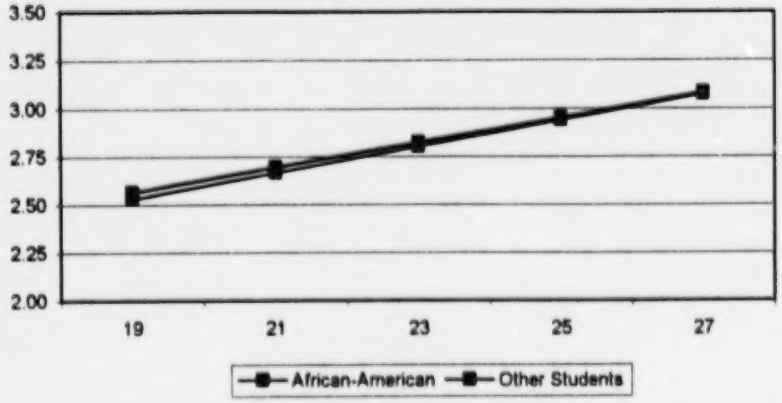

Figure 2: Predicted GPA by High School Class Percentile Rank

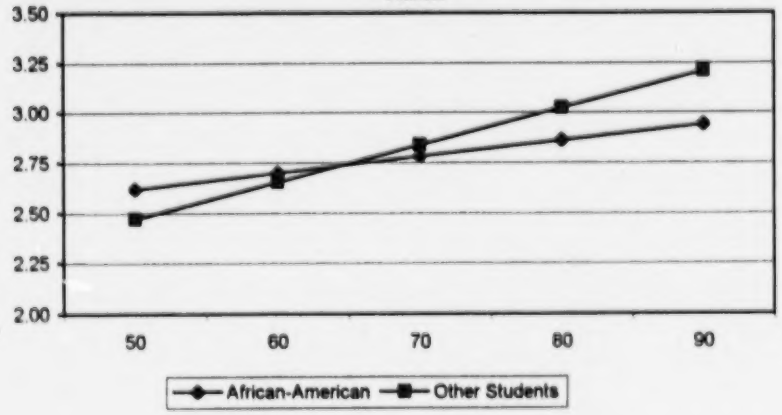

Figure 3: Predicted GPA from High School Core GPA

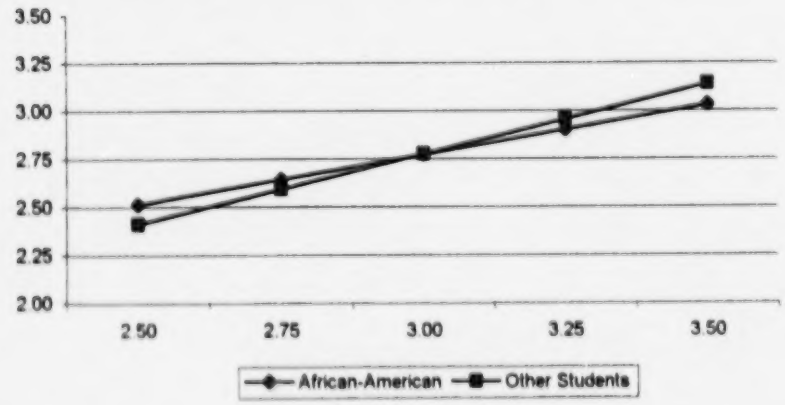

Table 2: Comparison of EMSAS and FAFSA Records

Parental Income

Income	ACT Composite Profile #	%	Cum	%	FAFSA #	%	Cum	%
< $18,000	3,241	10%	3,241	10%	1237	14%	1,237	14%
$18,000-24,000	2,940	9%	6,181	19%	821	9%	2,058	23%
$24,000-30,000	3,069	10%	9,250	29%	701	8%	2,759	31%
$30,000-36,000	3,140	10%	12,390	39%	651	7%	3,410	38%
$36,000-42,000	3,412	11%	15,802	49%	783	9%	4,193	47%
$42,000-50,000	3,843	12%	19,645	61%	1001	11%	5,194	58%
$50,000-60,000	3,984	12%	23,629	74%	1,085	12%	6,279	70%
$60,000-80,000	4,165	13%	27,794	87%	1,575	18%	7,854	88%
$80,000-100,000	2,033	6%	29,827	93%	664	7%	8,518	96%
> $100,000	2,217	7%	32,044	100%	396	4%	8,914	100%
	32,044				8,914			

ACT High School Profile is the state composite report for Missouri based on the high school graduating class of 1997.
FAFSA was computed from the FAFSA records of Missouri students enrolling in Missouri public postsecondary institutions.

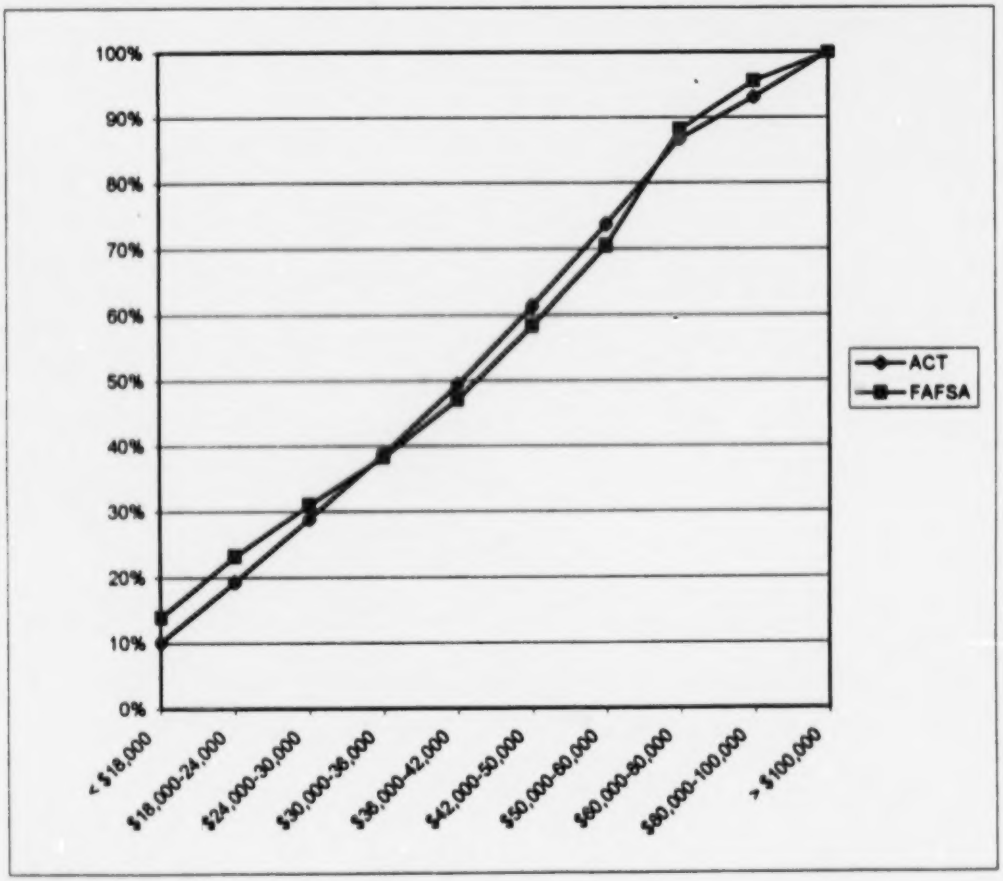

Table 2: (continued)

Variable	Levels	EMSAS, ACT, FAFSA	EMSAS	EMSAS ACT	EMSAS FAFSA	Sum
Sex	Female	5,023	1,416	4,343	456	11,238
	Male	3,733	1,519	3,776	304	9,332
		8,756	2,935	8,119	760	20,570

	Any EMSAS	Any ACT	Any FAFSA
Female	55%	56%	58%
Male	45%	44%	42%

Variable	Levels	EMSAS, ACT, FAFSA	EMSAS	EMSAS ACT	EMSAS FAFSA	Sum
Race/Ethnicity	African-American	677	355	441	167	1,640
	Asian & Pacific Islander	136	22	100	11	269
	Hispanic	100	45	100	9	254
	American Indian	40	20	46	6	112
	White	7,652	2,385	7,273	547	17,857
	Unknown	151	108	159	20	438
		8,756	2,935	8,119	760	20,570

	Any EMSAS	Any ACT	Any FAFSA
African-American	8%	7%	9%
Asian & Pacific Islander	1%	1%	2%
Hispanic	1%	1%	1%
American Indian	1%	1%	0%
White	87%	88%	86%
Unknown	2%	2%	2%

Unknown includes 'other'

Variable	Levels	EMSAS, ACT, FAFSA	EMSAS	EMSAS ACT	EMSAS FAFSA	Sum
H.S. Core	Yes	7,407	139	6,022	94	13,662
	No	1,287	136	1,937	84	3,444
		8,694	275	7,959	178	17,106

	Any EMSAS	Any ACT	Any FAFSA
Yes	80%	81%	85%
No	20%	19%	15%

Variable	Levels	EMSAS, ACT, FAFSA	EMSAS	EMSAS ACT	EMSAS FAFSA	Sum
Public School Wealth	Poorest Quarter	1,397	355	869	198	2,819
	2nd Quarter	2,041	531	1,544	137	4,253
	3rd Quarter	2,006	858	2,107	173	5,144
	Wealthiest Quarter	2,093	917	2,484	174	5,668
		7,537	2,661	7,004	682	17,884

	Any EMSAS	Any ACT	Any FAFSA
Poorest Quarter	16%	16%	19%
2nd Quarter	24%	25%	26%
3rd Quarter	29%	28%	27%
Wealthiest Quarter	32%	31%	28%

EMSAS records are those of the Enhanced Missouri Student Achievment Study, a unit record system for public postsecondary students. FAFSA records are from the Free Application for Federal Student Aid. ACT records are those reported by the testing and recruitment service.

Table 3: Proportion of FAFSA Submissions

	Campus	Freshman Enrollment	Submitted FAFSA #	Submitted FAFSA %	Resident Cost
4-Year	UM-Rolla	478	337	71%	$4,213
	Truman State	1,185	706	60%	$3,098
	UM-Columbia	2,789	1,711	61%	$4,121
	UM-Kansas City	429	246	57%	$4,121
	SMSU	2,322	1,317	57%	$2,888
	CMSU	1,170	673	58%	$2,520
	SEMO	909	493	54%	$2,880
	UM-St Louis	588	324	55%	$4,146
	NWMSU	807	474	59%	$2,415
	Southern	505	224	44%	$2,190
	Western	827	441	53%	$2,414
	Harris-Stowe	130	60	46%	$2,220
	Lincoln	254	125	49%	$2,204
	4-Year Sum	12,393	7,132	58%	$3,033
2-Year	East Central	329	113	34%	$1,155
	Jefferson	818	169	21%	$1,260
	Longview	943	198	21%	$1,350
	Maplewoods	384	85	22%	$1,350
	Mineral Area	265	105	40%	$1,050
	Moberly	243	111	46%	$1,115
	North Central	213	113	53%	$1,275
	Ozark	533	152	29%	$1,290
	Penn Valley	158	43	27%	$1,350
	St Charles	763	180	24%	$1,440
	St Louis CC - Forest Park	340	130	38%	$1,260
	St Louis CC - Florrisant Valley	821	226	28%	$1,260
	St Louis CC - Meramac	1,459	324	22%	$1,260
	State Fair	346	141	41%	$1,230
	Three-Rivers	396	195	49%	$1,110
	West Plains	166	99	60%	
	2-Year Sum	8,177	2,384	29%	$1,251
Total		20,570	9,516	46%	

Figures include only traditionally aged freshmen from Missouri high schools. Costs are 96-97 annual costs for Missouri resident or in-district full-time students and do not include room & board. Averages are unweighted.

Table 4: Selectivity of Public Four-Year Institutions as Defined by Sum of High School Percentile Rank in Graduating Class and ACT Composite Score Percentile

Campus	10th Percentile	Median	Average	n	N	%
UM-Rolla	140	160	174	453	478	95%
Truman State	140	170	168	1,182	1,185	100%
UM-Columbia	121	164	160	2,717	2,789	97%
UM-Kansas City	113	162	157	407	429	95%
SMSU	90	141	140	2,285	2,322	98%
CMSU	83	132	132	1,149	1,170	98%
SEMO	81	131	132	896	909	99%
UM-St Louis	80	131	130	548	588	93%
NWMSU	80	130	129	796	807	99%
Southern	66	123	121	470	505	93%
Western	47	109	108	742	827	90%
Harris-Stowe	46	86	91	112	130	86%
Lincoln	34	84	87	216	254	85%
				11,973	12,393	97%

ACT percentile scores are for 1991 national graduating class.

Table 5: Parental Education

	Campus	n	Frequency 1 or Both Parents Graduated H.S. But Neither College	Frequency 1 Parent Graduated College	Frequency Both Parents Graduated College	Percentage 1 or Both Parents Graduated H.S. But Neither College	Percentage 1 Parent Graduated College	Percentage Both Parents Graduated College
4-Year	UM-Rolla	336	110	109	117	33%	32%	35%
	Truman State	700	188	208	304	27%	30%	43%
	UM-Columbia	1,689	431	517	741	26%	31%	44%
	UM-Kansas City	240	63	70	107	26%	29%	45%
	SMSU	1,294	519	391	384	40%	30%	30%
	CMSU	658	288	220	150	44%	33%	23%
	SEMO	484	232	141	111	48%	29%	23%
	UM-St Louis	321	139	98	84	43%	31%	26%
	NWMSU	463	216	135	112	47%	29%	24%
	Southern	224	123	58	43	55%	26%	19%
	Western	428	210	123	95	49%	29%	22%
	Harris-Stowe	59	31	22	6	53%	37%	10%
	Lincoln	120	65	35	20	54%	29%	17%
	4-Year Sum	7,016	2,615	2,127	2,274	37%	30%	32%
2-Year	East Central	111	64	28	19	58%	25%	17%
	Jefferson	165	99	46	20	60%	28%	12%
	Longview	195	80	77	38	41%	39%	19%
	Maplewoods	82	40	25	17	49%	30%	21%
	Mineral Area	100	54	32	14	54%	32%	14%
	Moberly	109	53	42	14	49%	39%	13%
	North Central	106	53	32	23	49%	30%	21%
	Ozark	150	86	33	31	57%	22%	21%
	Penn Valley	43	27	12	4	63%	28%	9%
	St Charles	178	80	58	40	45%	33%	22%
	St Louis CC - Forest Park	113	60	39	14	53%	35%	12%
	St Louis CC - Florrisant Valley	214	95	70	49	44%	33%	23%
	St Louis CC - Meramac	313	124	98	91	40%	31%	29%
	State Fair	138	73	38	27	53%	28%	20%
	Three-Rivers	192	113	55	24	59%	29%	13%
	West Plains	97	50	35	12	52%	36%	12%
	2-Year Sum	2,308	1,151	720	437	50%	31%	19%
Total		9,324	3,766	2,847	2,711	40%	31%	29%

Figures include only traditionally aged freshmen from Missouri high schools.

Table 6: Students Completed Missouri's High School Core

	Campus	n	Frequency Yes	Frequency No	Percentage Yes	Percentage No
4-Year	UM-Rolla	477	470	7	99%	1%
	Truman State	1,185	1,185	0	100%	0%
	UM-Columbia	2,785	2,739	46	98%	2%
	UM-Kansas City	426	410	16	96%	4%
	SMSU	2,233	1,927	306	86%	14%
	CMSU	1,167	1,080	87	93%	7%
	SEMO	895	873	22	98%	2%
	UM-St Louis	580	534	46	92%	8%
	NWMSU	807	746	61	92%	8%
	Southern	497	396	101	80%	20%
	Western	811	653	158	81%	19%
	Harris-Stowe	111	78	33	70%	30%
	Lincoln	217	121	96	56%	44%
	4-Year Sum	12,191	11,212	979	92%	8%
2-Year	East Central	200	96	104	48%	52%
	Jefferson	433	203	230	47%	53%
	Longview	563	252	311	45%	55%
	Maplewoods	182	83	99	46%	54%
	Mineral Area	192	80	112	42%	58%
	Moberly	180	90	90	50%	50%
	North Central	167	89	78	53%	47%
	Ozark	307	125	182	41%	59%
	Penn Valley	76	47	29	62%	38%
	St Charles	539	292	247	54%	46%
	St Louis CC - Forest Park	154	85	69	55%	45%
	St Louis CC - Florrisant Valley	457	282	175	62%	38%
	St Louis CC - Meramac	802	502	300	63%	37%
	State Fair	257	67	190	26%	74%
	Three-Rivers	270	97	173	36%	64%
	West Plains	136	60	76	44%	56%
	2-Year Sum	4,915	2,450	2,465	50%	50%
Total		17,106	13,662	3,444	80%	20%

Figures include only traditionally aged freshmen from Missouri high schools.

Table 7: Wealth of High School Student Body (Missouri Public High Schools)

			Frequency				Percentage			
	Campus	n	Poorest Quarter	Poorer Quarter	Wealthier Quarter	Wealthiest Quarter	Poorest Quarter	Poorer Quarter	Wealthier Quarter	Wealthiest Quarter
4-Year	UM-Rolla	398	57	122	93	126	14%	31%	23%	32%
	Truman State	875	57	167	324	327	7%	19%	37%	37%
	UM-Columbia	2,344	257	515	821	751	11%	22%	35%	32%
	UM-Kansas City	365	56	82	75	170	16%	17%	21%	47%
	SMSU	2,084	296	662	545	581	14%	32%	26%	28%
	CMSU	1,063	139	361	174	389	13%	34%	16%	37%
	SEMO	782	156	136	283	207	20%	17%	36%	26%
	UM-St Louis	398	40	71	149	138	10%	18%	37%	35%
	NWMSU	758	139	231	150	238	18%	30%	20%	31%
	Southern	497	69	161	201	66	14%	32%	40%	13%
	Western	776	223	135	276	142	29%	17%	36%	18%
	Harris-Stowe	102	36	19	30	17	35%	19%	29%	17%
	Lincoln	195	39	61	24	71	20%	31%	12%	36%
	4-Year Sum	10,637	1,566	2,703	3,145	3,223	15%	25%	30%	30%
2-Year	East Central	304	28	50	98	128	9%	16%	32%	42%
	Jefferson	787	35	151	248	335	5%	20%	32%	44%
	Longview	871	34	134	108	595	4%	15%	12%	68%
	Maplewoods	378	7	21	152	198	2%	6%	40%	52%
	Mineral Area	262	99	107	51	5	38%	41%	19%	2%
	Moberly	239	43	132	40	24	18%	55%	17%	10%
	North Central	208	63	90	52	3	30%	43%	25%	1%
	Ozark	524	98	206	93	127	18%	40%	18%	24%
	Penn Valley	147	87	15	16	29	59%	10%	11%	20%
	St Charles	686	3	31	96	554	0%	5%	14%	81%
	St Louis CC - Forest Park	221	95	32	66	28	43%	14%	30%	13%
	St Louis CC - Florrisant Valle	672	92	170	242	168	14%	25%	36%	25%
	St Louis CC - Meramac	1,083	50	141	674	218	5%	13%	62%	20%
	State Fair	325	65	222	11	27	20%	68%	3%	8%
	Three-Rivers	394	297	43	51	3	75%	11%	13%	1%
	West Plains	166	159	3	1	3	96%	2%	1%	2%
	2-Year Sum	7,081	1,094	1,547	1,998	2,442	15%	22%	28%	34%
Total		17,718	2,660	4,250	5,143	5,665	15%	24%	29%	32%

Figures include only traditionally aged freshmen from Missouri high schools.

Table 8: Wealth of Parents (Parental Adjusted Gross Income)

	Campus	n	Frequency: Less than $25K	$25K to $44K	$44K to $66K	$66K and Above	Percentage: Less than $25K	$25K to $44K	$44K to $66K	$66K and Above
4-Year	UM-Rolla	327	54	83	94	96	17%	25%	29%	29%
	Truman State	697	86	127	190	294	12%	18%	27%	42%
	UM-Columbia	1,669	272	351	431	615	16%	21%	26%	37%
	UM-Kansas City	233	35	61	53	84	15%	26%	23%	36%
	SMSU	1,260	299	311	307	343	24%	25%	24%	27%
	CMSU	639	157	144	200	138	25%	23%	31%	22%
	SEMO	488	112	112	141	103	24%	24%	30%	22%
	UM-St Louis	304	79	69	73	83	26%	23%	24%	27%
	NWMSU	446	117	124	114	91	26%	28%	26%	20%
	Southern	209	69	76	52	12	33%	36%	25%	6%
	Western	399	120	106	111	62	30%	27%	28%	16%
	Harris-Stowe	47	24	13	6	4	51%	28%	13%	9%
	Lincoln	105	31	35	20	19	30%	33%	19%	18%
	4-Year Sum	6,803	1,455	1,612	1,792	1,944	21%	24%	26%	29%
2-Year	East Central	106	35	28	29	14	33%	26%	27%	13%
	Jefferson	155	43	43	47	22	28%	28%	30%	14%
	Longview	175	48	44	50	33	27%	25%	29%	19%
	Maplewoods	81	28	13	20	20	35%	16%	25%	25%
	Mineral Area	93	35	30	18	10	38%	32%	19%	11%
	Moberly	95	36	42	14	3	38%	44%	15%	3%
	North Central	103	29	34	29	11	28%	33%	28%	11%
	Ozark	137	55	42	33	7	40%	31%	24%	5%
	Penn Valley	29	22	4	2	1	76%	14%	7%	3%
	St Charles	168	40	37	53	38	24%	22%	32%	23%
	St Louis CC - Forest Park	90	59	16	5	8	66%	20%	6%	9%
	St Louis CC - Florrisant Valle	196	76	53	37	30	39%	27%	19%	15%
	St Louis CC - Meramac	298	61	67	55	95	20%	29%	18%	32%
	State Fair	125	47	47	26	5	38%	38%	21%	4%
	Three-Rivers	174	94	47	23	10	54%	27%	13%	6%
	West Plains	86	39	30	13	4	45%	35%	15%	5%
	2-Year Sum	2,111	747	599	454	311	35%	28%	22%	15%
Total		8,914	2,202	2,211	2,246	2,255	25%	25%	25%	25%

Figures include only traditionally aged freshmen from Missouri high schools

Table 9: Sex of Students

	Campus	n	Frequency		Percentage	
			Female	Male	Female	Male
4-Year	UM-Rolla	478	113	365	24%	76%
	Truman State	1,185	714	471	60%	40%
	UM-Columbia	2,789	1,496	1,293	54%	46%
	UM-Kansas City	429	232	197	54%	46%
	SMSU	2,322	1,337	985	58%	42%
	CMSU	1,170	642	528	55%	45%
	SEMO	909	568	341	62%	38%
	UM-St Louis	588	317	271	54%	46%
	NWMSU	807	466	341	58%	42%
	Southern	505	280	225	55%	45%
	Western	827	477	350	58%	42%
	Harris-Stowe	130	96	34	74%	26%
	Lincoln	254	144	110	57%	43%
	4-Year Sum	12,393	6,882	5,511	56%	44%
2-Year	East Central	329	181	148	55%	45%
	Jefferson	818	408	410	50%	50%
	Longview	943	516	427	55%	45%
	Maplewoods	384	192	192	50%	50%
	Mineral Area	265	147	118	55%	45%
	Moberly	243	136	107	56%	44%
	North Central	213	133	80	62%	38%
	Ozark	533	292	241	55%	45%
	Penn Valley	158	102	56	65%	35%
	St Charles	763	422	341	55%	45%
	St Louis CC - Forest Park	340	216	124	64%	36%
	St Louis CC - Florrisant Valley	821	442	379	54%	46%
	St Louis CC - Meramac	1,459	672	787	46%	54%
	State Fair	346	177	169	51%	49%
	Three-Rivers	396	213	183	54%	46%
	West Plains	166	107	59	64%	36%
	2-Year Sum	8,177	4,356	3,821	53%	47%
Total		20,570	11,238	9,332	55%	45%

Figures include only traditionally aged freshmen from Missouri high schools.

Table 10: Proportion African-American

	Campus	Total	African-Americans #	African-Americans %
4-Year	UM-Rolla	478	12	3%
	Truman State	1,185	19	2%
	UM-Columbia	2,789	200	7%
	UM-Kansas City	429	30	7%
	SMSU	2,322	52	2%
	CMSU	1,170	68	6%
	SEMO	909	45	5%
	UM-St Louis	588	83	14%
	NWMSU	807	24	3%
	Southern	505	2	0%
	Western	827	73	9%
	Harris-Stowe	130	103	79%
	Lincoln	254	82	32%
	4-Year Sum	12,393	793	6%
2-Year	East Central	329	5	2%
	Jefferson	818	6	1%
	Longview	943	87	9%
	Maplewoods	384	7	2%
	Mineral Area	265	8	3%
	Moberly	243	12	5%
	North Central	213	0	0%
	Ozark	533	7	1%
	Penn Valley	158	92	58%
	St Charles	763	7	1%
	St Louis CC - Forest Park	340	212	62%
	St Louis CC - Florrisant Valley	821	336	41%
	St Louis CC - Meramac	1,459	50	3%
	State Fair	346	7	2%
	Three-Rivers	396	11	3%
	West Plains	166	0	0%
	2-Year Sum	8,177	847	10%
Total		20,570	1,640	8%

Figures include only traditionally aged freshmen from Missouri high schools.
Total figure includes unknowns and others making these proportions absolute minimums.

Table 11: Median Values for Four-Year Public Institutions (Missouri Freshmen)

Campus	Parent's Adjusted Gross Income		ACT		Percentile Rank High School Graduating Class		Sum of Percentiles		Distance (miles)	
	Median	n	Median	n	Median	n	Median	n	Median	n
UM-Rolla	48,365	327	29	474	88	457	180	453	95	398
Truman State	56,890	697	27	1,184	88	1,183	170	1,182	158	875
UM-Columbia	53,500	1,669	25	2,782	82	2,726	164	2,717	115	2,342
UM-Kansas City	63,678	233	25	428	83	408	162	407	26	365
SMSU	45,103	1,260	23	2,320	74	2,287	141	2,285	114	2,083
CMSU	45,957	639	22	1,169	72	1,150	132	1,149	56	1,062
SEMO	44,671	468	22	906	69	897	132	896	43	782
UM-St Louis	44,596	304	22	581	67	552	131	548	0	398
NWMSU	41,132	446	21	806	70	797	130	796	86	757
Southern	33,544	209	21	505	64	470	123	470	22	495
Western	39,621	399	20	815	64	758	109	742	24	776
Harris-Stowe	24,534	47	17	117	62	126	86	112	0	102
Lincoln	38,114	105	18	243	46	223	84	216	25	195
Both Parents w/ College Degrees	58,322	2,231	25	2,271	81	2,206	160	2,201	110	1,861
At Least One w/ College Degree	47,082	2,056	24	2,123	78	2,081	152	2,076	95	1,809
No Parent w/ College Degree	38,852	2,422	23	2,610	78	2,572	145	2,563	81	2,324
>$66K (Parent Adjusted Income)	79,265	1,944	25	1,943	79	1,885	159	1,883	115	1,494
$44-$66K (Parent Adjusted Income)	53,083	1,792	24	1,791	81	1,760	156	1,760	92	1,530
$25-$44K (Parent Adjusted Income)	35,364	1,612	23	1,609	79	1,581	152	1,575	81	1,431
<$25K (Parent Adjusted Income)	17,045	1,455	23	1,452	76	1,426	141	1,420	84	1,332

Table 12: Education and Income

	Campus	Parental Income (Adjusted Gross) <$25K	$25-44K	$44-66K	$66K & Up	Sum	%
Freshmen at 2- and 4-Year	Both parents have college degrees	358	531	686	1070	2,645	30%
	Row %	14%	20%	26%	40%		
	Column %	17%	24%	31%	48%		
	One parent has a college degree	630	687	691	684	2,692	31%
	Row %	23%	26%	26%	25%		
	Column %	29%	32%	31%	31%		
	Neither parent has a college degree	1,158	960	837	472	3,427	39%
	Row %	34%	28%	24%	14%		
	Column %	54%	44%	38%	21%		
		2,146	2,178	2,214	2,226	8,764	
		24%	25%	25%	25%		
4-Year Only	Both parents have college degrees	259	433	583	956	2,231	33%
	Row %	12%	19%	26%	43%		
	Column %	18%	27%	33%	50%		
	One parent has a college degree	436	484	557	579	2,056	31%
	Row %	21%	24%	27%	28%		
	Column %	31%	30%	32%	30%		
	Neither parent has a college degree	730	675	627	390	2,422	36%
	Row %	30%	28%	26%	16%		
	Column %	51%	42%	35%	20%		
		1,425	1,592	1,767	1,925	6,709	
		21%	24%	26%	29%		
2-Year Only	Both parents have college degrees	99	98	103	114	414	20%
	Row %	24%	24%	25%	28%		
	Column %	14%	17%	23%	38%		
	One parent has a college degree	194	203	134	105	636	31%
	Row %	31%	32%	21%	17%		
	Column %	27%	35%	30%	35%		
	Neither parent has a college degree	428	285	210	82	1,005	49%
	Row %	43%	28%	21%	8%		
	Column %	59%	49%	47%	27%		
		721	586	447	301	2,055	
		35%	29%	22%	15%		

Table 13: Education and Wealth of H.S. Student Body

	Campus	Quartile Based on % of Student Body on Free- or Reduced-Price Lunches: Poorest Quartile	Poorer Quartile	Wealthier Quartile	Wealthiest Quartile	Sum	%
Freshmen at 2- and 4-Year	Both parents have college degrees	275	540	707	721	2,243	28%
	Row %	12%	24%	32%	32%		
	Column %	18%	25%	33%	32%		
	One parent has a college degree	470	639	817	727	2,453	30%
	Row %	19%	26%	25%	30%		
	Column %	30%	30%	29%	33%		
	Neither parent has a college degree	807	960	817	784	3,368	42%
	Row %	24%	29%	24%	23%		
	Column %	52%	45%	38%	35%		
		1,552	2,139	2,141	2,232	8,064	
		19%	27%	27%	28%		
4-Year Only	Both parents have college degrees	208	457	594	603	1,862	31%
	Row %	11%	25%	32%	32%		
	Column %	20%	28%	36%	35%		
	One parent has a college degree	299	493	470	548	1,810	30%
	Row %	17%	27%	26%	30%		
	Column %	29%	30%	29%	32%		
	Neither parent has a college degree	510	683	575	556	2,324	39%
	Row %	22%	29%	25%	24%		
	Column %	50%	42%	35%	33%		
		1,017	1,633	1,639	1,707	5,996	
		17%	27%	27%	28%		
2-Year Only	Both parents have college degrees	67	83	113	118	381	18%
	Row %	18%	22%	30%	31%		
	Column %	13%	16%	23%	22%		
	One parent has a college degree	171	148	147	179	643	31%
	Row %	27%	23%	23%	28%		
	Column %	32%	29%	29%	34%		
	Neither parent has a college degree	297	277	242	228	1,044	50%
	Row %	28%	27%	23%	22%		
	Column %	56%	55%	48%	43%		
		535	508	502	525	2,068	
		26%	24%	24%	25%		

Table 14: Parental Wealth and Wealth of H.S. Student Body

	Campus	Quartile Based on % of Student Body on Free or Reduced Price Lunches: Poorest Quarter	Poorer Quarter	Wealthier Quarter	Wealthiest Quarter	Sum	%
Freshmen at 2- and 4-Year	Parental Adj. Gross Income >$66K	110	338	569	730	1,747	23%
	Row %	6%	19%	33%	42%		
	Column %	10%	22%	37%	47%		
	Parental Adj. Gross Income $44-$66K	269	506	533	526	1,834	24%
	Row %	15%	28%	29%	29%		
	Column %	24%	33%	35%	34%		
	Parental Adj. Gross Income $25-$44K	418	596	491	473	1,977	26%
	Row %	21%	30%	25%	24%		
	Column %	37%	39%	32%	31%		
	Parental Adj. Gross Income < $25K	606	610	463	343	2,022	27%
	Row %	30%	30%	23%	17%		
	Column %	53%	40%	30%	22%		
		1,134	1,543	1,523	1,546	5,746	
		20%	27%	27%	27%		
4-Year Only	Parental Adj. Gross Income >$66K	90	307	476	621	1,494	26%
	Row %	6%	21%	32%	42%		
	Column %	10%	19%	30%	37%		
	Parental Adj. Gross Income $44-$66K	208	410	432	480	1,530	26%
	Row %	14%	27%	28%	31%		
	Column %	22%	26%	27%	29%		
	Parental Adj. Gross Income $25-$44K	283	441	359	349	1,432	25%
	Row %	20%	31%	25%	24%		
	Column %	30%	28%	23%	21%		
	Parental Adj. Gross Income < $25K	364	423	319	227	1,333	23%
	Row %	27%	32%	24%	17%		
	Column %	39%	27%	20%	14%		
		945	1,581	1,586	1,677	5,789	
		16%	27%	27%	29%		
2-Year Only	Parental Adj. Gross Income >$66K	20	31	93	109	253	14%
	Row %	8%	12%	37%	43%		
	Column %	5%	8%	25%	31%		
	Parental Adj. Gross Income $44-$66K	61	96	101	46	304	17%
	Row %	20%	32%	33%	15%		
	Column %	15%	26%	27%	13%		
	Parental Adj. Gross Income $25-$44K	135	154	132	124	545	30%
	Row %	25%	28%	24%	23%		
	Column %	34%	41%	36%	36%		
	Parental Adj. Gross Income < $25K	242	187	144	116	689	38%
	Row %	35%	27%	21%	17%		
	Column %	61%	50%	39%	33%		
		397	372	369	349	1,487	
		27%	25%	25%	23%		

Table 15: African-American Distribution Comparisons

Campus	African-Americans n	%	All Others		All n	%
Parental Adj. Gross Income						
Parental AGI >$66K	95	15%	2,160	26%	2,255	25%
Parental AGI $44-$66K	84	13%	2,162	26%	2,246	25%
Parental AGI $25-$44K	167	26%	2,044	25%	2,211	25%
Parental AGI < $25K	306	47%	1,896	23%	2,202	25%
Parental Education Level						
Both parents have college degree	169	21%	2,542	30%	2,711	29%
Only one parent has college degree	270	34%	2,577	30%	2,847	31%
Neither parent has college degree	363	45%	3,403	40%	3,766	40%
High School Student Body Wealth						
Wealthiest Quartile	217	15%	5,451	33%	5,668	32%
Wealthier Quartile	397	28%	4,747	29%	5,144	29%
Poorer Quartile	302	21%	3,951	24%	4,253	24%
Poorest Quartile	492	35%	2,327	14%	2,819	16%

Table 16a: African-American Percentage Enrollment Using Various SES Adjustments -- TARGET RATE=6.1%

MOST SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	4.0%				5.2%
50	3.7%			4.6%	
25	3.1%		3.7%		
10	2.8%	3.0%			
0	2.7%	2.9%	3.3%	3.8%	4.6%

MORE SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	4.6%				5.4%
50	4.5%			5.2%	
25	4.3%		4.8%		
10	4.1%	4.2%			
0	3.9%	4.1%	4.4%	4.9%	5.1%

MORE OPEN TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	5.2%				5.7%
50	5.2%			5.6%	
25	5.1%		5.4%		
10	5.1%	5.2%			
0	5.0%	5.2%	5.3%	5.5%	5.7%

MOST ACCESSIBLE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	5.7%				5.9%
50	5.7%			5.9%	
25	5.7%		5.8%		
10	5.7%	5.7%			
0	5.6%	5.7%	5.8%	5.9%	5.9%

Note: If African-American group are given 41 points then the tier 1 distribution is 6.1%, like the base.

Table 16b: Lowest Parental Adjusted Gross Income Quartile Percentage Enrollment Using Various SES Adjustments -- TARGET RATE=22.9%

MOST SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	21.2%				30.7%
50	20.4%			28.6%	
25	19.3%		25.0%		
10	18.8%	21.2%			
0	18.2%	20.8%	24.1%	28.2%	31.2%

MORE SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	21.8%				26.6%
50	21.5%			25.9%	
25	20.8%		23.8%		
10	20.4%	21.8%			
0	20.1%	21.5%	23.3%	25.8%	27.0%

MORE OPEN TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	22.2%				24.4%
50	22.1%			24.2%	
25	21.8%		23.6%		
10	21.4%	22.4%			
0	21.2%	22.2%	23.3%	24.3%	24.7%

MOST ACCESSIBLE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	22.7%				23.3%
50	22.7%			23.3%	
25	22.6%		23.1%		
10	22.4%	22.6%			
0	22.4%	22.6%	23.1%	23.4%	23.4%

Table 16c: Poorest High School Quartile Percentage Enrollment Using Various SES Adjustments -- TARGET RATE=17.9%

MOST SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	25.6%				24.0%
50	23.2%			23.0%	
25	19.8%		20.4%		
10	17.8%	18.0%			
0	16.1%	16.5%	16.8%	17.8%	18.4%

MORE SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	18	75
75	21.5%				20.6%
50	20.6%			20.4%	
25	18.7%		19.2%		
10	17.2%	17.5%			
0	16.1%	16.5%	16.9%	17.5%	17.9%

MORE OPEN TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	19.6%				19.1%
50	19.2%			18.9%	
25	18.3%		18.5%		
10	17.5%	17.8%			
0	16.8%	17.0%	17.3%	17.7%	17.8%

MOST ACCESSIBLE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K				
	0	10	25	50	75
75	18.4%				18.3%
50	18.4%			18.3%	
25	18.1%		18.1%		
10	17.7%	17.8%			
0	17.3%	17.4%	17.6%	17.7%	17.7%

Table 17: Selectivity of Public Four-Year Institutions as Defined by High School Percentile Rank in Graduating Class

Campus	10th Percentile	Median	Average	n	N	%
UM-Rolla	62	88	84	457	478	96%
Truman State	60	80	79	1,183	1,185	100%
UM-Columbia	50	82	78	2,724	2,789	98%
UM-Kansas City	53	83	79	408	429	95%
SMSU	40	73	70	2,287	2,322	98%
CMSU	40	72	69	1,158	1,170	99%
NWMSU	36	70	67	798	807	99%
SEMO	32	68	65	897	909	99%
UM-St Louis	32	67	65	552	588	94%
Southern	30	64	63	470	505	93%
Western	20	60	58	743	827	90%
Harris-Stowe	17	63	57	125	130	96%
Lincoln	14	45	46	221	254	87%
				12,023	12,393	97%

Table 18: African-American Percentage Enrollment Using Various SES Adjustments -- High School Rank Based Tiers (TARGET RATE=6.1%)

MOST SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K			
	0	10	25	50
50	5.1%			5.6%
25	5.0%		5.2%	
10	4.8%	4.9%		
0	4.7%	4.9%	5.1%	5.6%

MORE SELECTIVE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K			
	0	10	25	50
50	5.1%			5.7%
25	5.1%		5.4%	
10	5.0%	5.1%		
0	4.9%	5.0%	5.4%	5.6%

MORE OPEN TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K			
	0	10	25	50
50	5.5%			5.8%
25	5.5%		5.8%	
10	5.5%	5.6%		
0	5.4%	5.6%	5.8%	5.8%

MOST ACCESSIBLE TIER INSTITUTIONS

High School Student Body Wealth Advantage if in Poorest Quartile	If Parent's Adjusted Gross Income < $25K			
	0	10	25	50
50	5.9%			6.0%
25	5.9%		6.0%	
10	5.9%	6.0%		
0	5.9%	6.0%	6.0%	6.0%

Note: If African-American group are given 41 points then the tier 1 distribution is 6.1%, like the base.